

# BINGHAMTON UNIVERSITY

State University of New York

DEPARTMENT OF BIOENGINEERING  
THOMAS J. WATSON SCHOOL  
OF ENGINEERING AND APPLIED SCIENCE  
*Innovative Technologies Complex*

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Binghamton, New York 13902-6000  
607-777-5779, Fax: 607-777-5780  
Website: [bioem.binghamton.edu](http://bioem.binghamton.edu)

FILED/ACCEPTED

MAY 15 2007

Federal Communications Commission  
Office of the Secretary

FILED/ACCEPTED

MAY 15 2007

Federal Communications Commission  
Office of the Secretary

May 3, 2007

To Whom It May Concern:  
Re: FCC funding for UHS telemedicine

I am a faculty member in the Department of Bioengineering at Binghamton University and also ~~am~~ a pediatrician with Binghamton Pediatrics, a United Health Services facility. I am writing in support of the UHS telemedicine program's efforts to expand to the Internet2.

When I arrived here from Boston three years ago, I **was** thrilled to learn about Dr. Cheryl Kerr's (and others') efforts with the telemedicine program. Binghamton is a small community with limited access to specialists and the telemedicine program makes getting consults from tertiary academic centers much easier. It has also been helpful for working with our school-based health centers. Perhaps importantly, however, this telemedicine program makes it possible for truly remote rural providers and facilities to access generalists and specialists in Binghamton and beyond.

I am a frequent user of the current UHS telemedicine program but am anxious to see it expand to the Internet2, which will increase its speed and ease of use. I can see collaborative possibilities between UHS and Binghamton University, both in research and clinical areas. From a clinical perspective, the expanded capabilities of the Internet2 would be particularly helpful to the Decker School of Nursing at Binghamton University, which focuses on rural health and has numerous affiliations with distant sites.

Telemedicine is making it possible to improve the access and quality of healthcare provided to all communities, but especially to remote rural communities. I wholeheartedly give my support to the efforts by UHS to upgrade their telemedicine program and **thus** increase this access and quality even further.

Sincerely,

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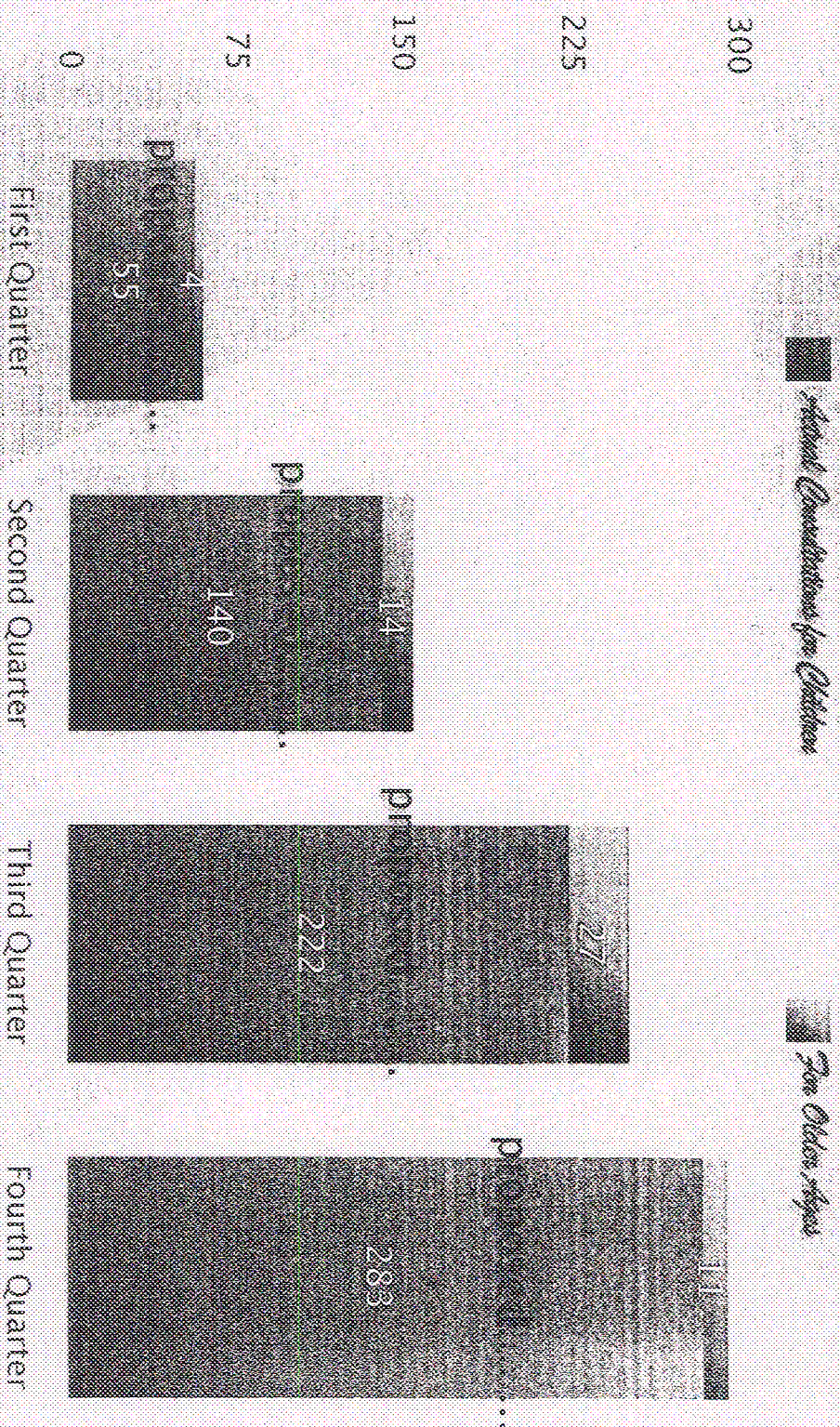
*Leann Lesperance*

Leann Lesperance, MD, PhD, FAAP

Assistant **Professor**, SUNY – Binghamton University, Department of Bioengineering

Clinical Assistant **Professor**, SUNY – Upstate Medical University, Department of Pediatrics

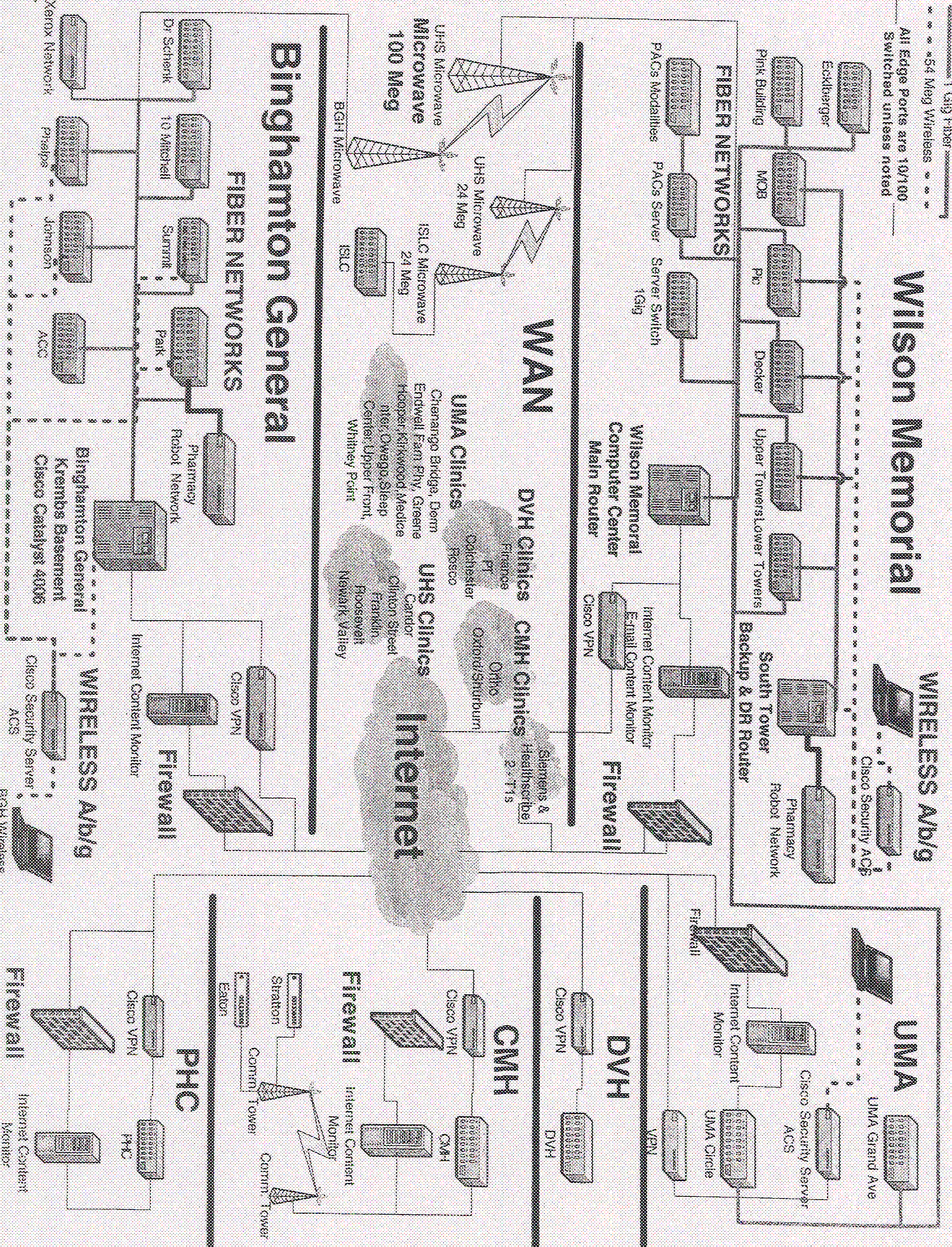
Fig 2. UHS Telenmedicine Consultations  
4/1/05 – 3/31/06 by Quarter



..... 1 Giga Fiber .....  
 \* \* \* \* \* 54 Meg Wireless \* \* \* \* \*  
 All Edge Ports are 10/100  
 Switched unless noted

# Wilson Memorial

WIRELESS A/b/g



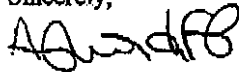
May 4, 2001

To Whom It May Concern:

Please accept this letter of support for the Telemedicine program. I have been using the system for several years in my rural practice located in Newark Valley, NY. We are able to have a picture sent to the consultant and are able to set up visits for patients by making an introductory visit to the office and then returning for a procedure. We use the program for questions about patients and it is true that "a picture is worth a thousand words." Using the picture instead of a lengthy description has been much more useful. We are able to give valuable feedback in a very timely manner. They have been able to prioritize visits for those who are very ill, often times, seeing a picture of the patient allows the specialist to be prepared for the patient when they arrive at their office. It also clarifies the urgency of the appointment.

Thank you for your consideration of the project. This has been most useful. I am a Family Nurse Practitioner in a rural office. Our patients are reaping the rewards of the service available and I hope to continue to be able to provide it for them.

Sincerely,



Amy Lord, MSN, FNP

United  
Health Services  
Hospitals

Northern Tioga  
Family Care Center

James M. Skiff, MD  
Amy E. Lord, FNP

Northern Tioga Family Care Center  
119 Whig Street  
Newark Valley, New York 13811  
607.642.5211  
Fax: 607.642.8908  
www.uhs.net

United  
Health Services  
Hospitals

Binghamton General Hospital  
Reconstructive Surgery  
Cleft Craniofacial Care Team of Southern Tier

May 4, 2007

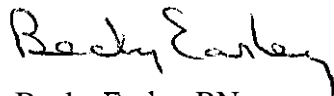
To Whom It May Concern:

I am writing to strongly support the Telemedicine Grant. As coordinator of the Cleft and Craniofacial Care Team. I endorse the grant application whole heartedly.

**Our** team, which is comprised of community experts who care for children, teenagers and young adults with craniofacial abnormalities have a significant interest in the communication and teaching results of this technology.

As we guide **our** patients and families through the long continuum of care, the need for collaboration and good easily accessible communication among care givers is of paramount importance

Thank you,



Becky Earley RN

May 2, 2007


To Whom It May Concern:

The Telemedicine Program is an extremely valuable component of our commitment to providing excellent patient care. It permits distance communication about difficult patient problems and enhances the concept of referral.

I have personally utilized this service and found that it exceeded my expectations. The patient in question was seen almost immediately in another city because of the ability to transmit pictures and results of diagnostic testing.

The program is excellent and I heartily endorse its continuation and expansion.

Sincerely,



James A. DellaValle, MD  
Director, Transitional Year Program

JAD/cac

May 1, 2007

FCC Grant Support  
Telemedicine  
United Health Services

To whom it may concern:

As a pediatrician vitally interested in collaboration among healthcare professionals for the benefit of the patient, I passionately support the telemedicine efforts and anything that facilitates their growth.

For the past eleven years, with the telemedicine team, I have constantly worked to see collaboration with pictures and videos extend the communication that professionals need to have. **This** communication will keep patients from becoming frustrated and keep the **costs** from escalating. Furthermore, it will improve the patients' care, increase provider satisfaction, and enhance medical student education.

The Internet2 would help our collaborative **program** make gigantic strides. Speed and ease of use are always holding back the busy healthcare provider who is already juggling many responsibilities. This **practitioner** continuously **has** the choice of taking care of the sick child in front of him or going the extra mile for another patient that he is concerned about. Increasing the speed and ease of use will clearly save healthcare **dollars** by not demanding that he make the choice but by facilitating both efforts.

Sincerely,



Cheryl B. Ken, M.D.  
Binghamton Pediatric Center

May 1, 2007

FCC Grant Support  
Telemedicine  
United Health Services

Dear Commissioner:

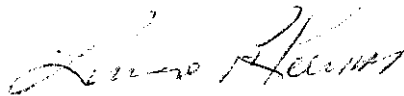
This letter is written to strongly support this grant. I am the director of the Cleft and Craniofacial Care Team in our area. Our referral area includes the counties referred to in the grant, and beyond.

As you are well aware, many, many professionals as well as multiple local caregivers need to communicate among themselves, the patient, and families. Only robust, frequent, and rich communication allows the optimum surgical, rehabilitative, and psychological care, as the patient faces the challenges of severe deformity secondary to birth defects, tumor, and accident. This is accomplished now by team sitting around a conference table. Unfortunately, this can only happen once per month.

The prospect of having a efficient, high speed tool that would extend these monthly meetings from a single afternoon at a single place, to virtual meetings anytime and anywhere has been a goal and passion for me for over 30 years. Only now, with the promise of Internet 2, current connectivity, and a recently completed software platform, is this possible. Extending such care, in a sense, on demand will not only give the patient better access, keep families working and together, but even more expand the ability of increasingly rare specialists to care for these patients. Finally, super-specialized providers, such as craniofacial geneticists, will be able to be distant members of the team.

Since these deformities are rare, the chances that a young practitioner or student having exposure to these cases during their training is remote. Since the local physician provides the primary care to these patients, the continuing and evolving educational aspects of the system will be most valuable.

Thank you for your consideration.



Lawrence Kerr, MD, FACS  
Director. Cleft and Craniofacial Team

May 02, 2007

To Whom It May Concern:

The Telemedicine program has assisted me for the last few years to consult with the specialties. It has been an outstanding help for my colleagues and I in consulting with a specialist from the convenience of our office. As we all know "A picture is worth a thousand words", it really helps us to make the Specialist understand about the wound or the problem.

Through the Telemedicine program, my team and I are able to communicate with the referring providers to provide better care of our patients.

I am confident that the program will be a boon to rural medicine and offer our patients an unprecedented access to care, by overcoming the traditional obstacles of time and distance.

I am glad to be a part of the Telemedicine team and I would appreciate the opportunity to work with you on this project. If you wish to discuss this further, please do not hesitate to contact me at 607-762-3610.

Sincerely,



Dr. John Giannone  
Deposit Family Care Center  
Deposit, NY

United  
Health Services  
Hospitals

Deposit  
Family Care Centers

MEDICAL DIRECTOR  
John J. Giannone, MD

Jydia Skues, RPA  
Shelly Stradley, DO

DIPLOMATES  
American Board of  
Family Practice

4 May2007

To whom it may concern:

We are nurse consultants who specialize in the management of patient problems concerning wounds, urinary and fecal diversions, and skin issues related to incontinence. We practice in several settings; acute care, out-patient clinic, extended care, as well as in the patient's home.

We have used telemedicine for one year. We have found it to **be** an invaluable tool for collaboration and communication with other health care professionals. It has been instrumental in expediting care for the patients, especially in situations where a timely response has been critical for successful outcomes. Other applications include education of health care professionals and networking with other WOCN colleagues who have access to the program.

The tool is easy to use, requiring a digital camera and computer with access to the internet. We have much enthusiasm for the use of this tool in our practice. On behalf of my colleagues, Christine Oliver BS, RN, CWOCN and **Ann** Semo, BS, RN, CWOCN, I offer our endorsement **of** telemedicine.

Yours truly,



Janet M. Brhel BS, RN, CWOCN  
Wound, Ostomy, Continence Nursing Service  
United Health Services Hospitals

United  
Health Services  
Hospitals

Continence Program  
Wound, Ostomy, Continence  
Nursing Service  
United Health Services Hospitals  
PO Box 1000  
Piquette, MI 48675

# ARC FY 2003

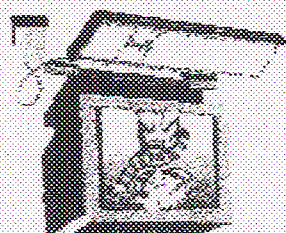
## Pioneering Telemedicine

11 sites proposed

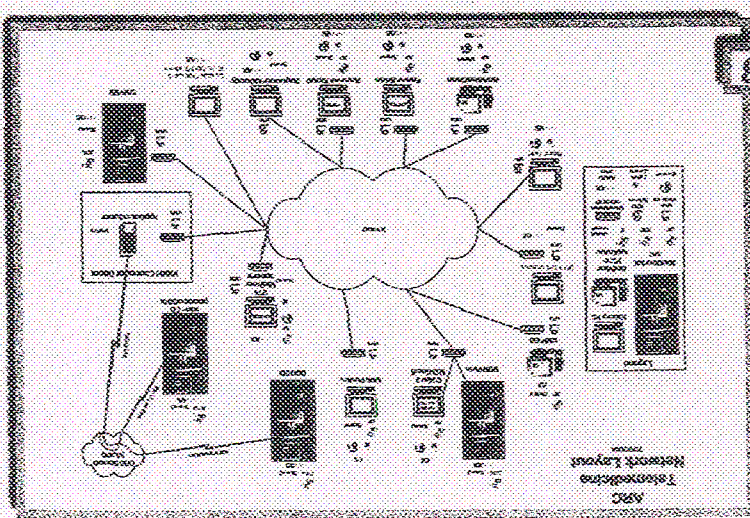
13 sites set up

site specific, traditional VC; expansion very expensive and restricted to site;

learn developed only for pediatrics



2003



2005

# ARC FY 2005

## Expanding a Virtual Pediatric Center

7 sites proposed

20 sites set up

BLACK 2003

RED & BLUE 2005

Ubiquitous internet-enabled

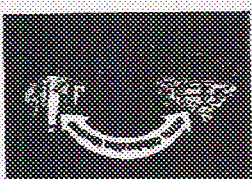
essentially for pediatrics



Fig. 1. Pediatric Network: Expanding Sites for the Expanded Virtual Pediatric Center  
Legend: Expanding Sites for the Expanded Virtual Pediatric Center

Site	Location	Connection Type	Connection Speed	Connection Status	Connection Date	Connection Cost	Connection Notes
1	New York	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
2	Los Angeles	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
3	Chicago	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
4	San Francisco	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
5	Seattle	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
6	Portland	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
7	San Diego	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
8	Phoenix	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
9	San Jose	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
10	San Antonio	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
11	San Houston	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
12	San Dallas	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
13	San Austin	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
14	San Fort Worth	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
15	San Denver	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
16	San Kansas City	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
17	San Omaha	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
18	San Minneapolis	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
19	San St. Louis	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
20	San Memphis	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
21	San Nashville	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
22	San Louisville	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
23	San Cincinnati	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
24	San Cleveland	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
25	San Pittsburgh	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
26	San Philadelphia	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
27	San Baltimore	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
28	San Washington	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
29	San New York	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
30	San Los Angeles	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
31	San Chicago	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
32	San San Francisco	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
33	San Seattle	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
34	San Portland	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
35	San San Diego	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
36	San Phoenix	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
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45	San San Omaha	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
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56	San San Washington	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
57	San San New York	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
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60	San San San Francisco	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
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62	San San Portland	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
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99	San San San San Denver	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site
100	San San San San Kansas City	100 Mbps	100 Mbps	Set up	2003	\$10,000	Initial site

ARC FY 2007: Advancing Access with a Telemedicine Toolbox  
sites to be expanded through in depth utilization, new areas of focus, and new technological pilots;  
wider geographic area; expansion to all age groups



Advancing Access with a Telemedicine Toolbox in Lipase New York

**UnitedHealth Services**

May 4, 2007

To Whom It May Concern:

**United  
Health Services  
Hospitals**

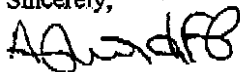
Northern Tioga  
Family Care Center

James M. Skiff, MD  
Amy E. Lord, FNP

Please accept this letter of support for the Telemedicine program. I have been actively using the system for several years in my rural practice located in Newark Valley, NY. The patients are able to have a picture sent to the consultant and are able to set up visits for procedures instead of making an introductory visit to the office and then returning for a procedure. I have also used the program for questions about patients and it is true that "a picture is worth a thousand words." Using the picture instead of a lengthy description has been much more useful and the consultants are able to give valuable feedback in a very timely manner. They have also been able to prioritize visits for those who are very ill, often times, seeing a picture of the problem allows the specialist to be prepared for the patient when they arrive at their office/ Emergency room, or clarifies the urgency of the appointment.

Thank you for your consideration of the project. This has been most useful to my practice as a Family Nurse Practitioner in a rural office. Our patients are reaping the rewards of having this service available and I hope to continue to be able to provide it for them with your help.

Sincerely,



Amy Lord, MSN, FNP

Northern Tioga Family Care Center  
119 Whig Street  
Newark Valley, New York 13811  
607.642.5211  
Fax: 607.642.8908  
www.uhs.net

May 4, 2007

Anu Banerjee  
Clinical Systems  
United Health Services.  
Johnson City, NY 13790


Dear Anu:

This letter is in support of the Telemedicine Grant proposal to be submitted by Clinical Systems, United Health Services.

I am the Ambulatory Services Medical Director for United Health Services. We have several rural family care centers as well as urban family care centers and school based health centers which continue to benefit from telemedicine. This project has allowed nurse practitioners at the school based health centers ready access to collaborating pediatricians and even out of town consultants. The rural sites have benefitted by their ability through telemedicine to send photos of skin lesions to dermatologic and surgical specialists streamlining the consulting process such that plans for treatment can be decided prior to the patient's arrival and in many cases negating the need for subsequent visits. It also is an excellent teaching modality and again allows even the physician provider easy access to consulting specialists.

I heartily support the grant proposal as I expect telemedicine will become an even more helpful and significant tool.

Sincerely,



D Kwiatkowski, Medical Director, Ambulatory Services  
United Health Services

DEK/vmb

Candor Family Care Center  
54 Main Street  
Candor, New York 13743  
607.659.7272

United  
Health Services  
Hospitals

Candor  
Family Care Center

David E. Kwiatkowski, MD  
Medical Director

Michael F. Murphy, MD

James M. Skiff, MD

Connie Naughton, FNP

Liza McKinney, CNM

## **FCC Fundina – United Health Services Telemedicine Grant Proposal**

**Identify the organization that will be legally and financially responsible for the conduct of activities supported by the fund;**

United Health Services is a regional health care system -- offering hospital, physician, home care and long-term care services to residents in a 12-county region in southern New York state and northern Pennsylvania. With four hospitals and numerous other sites, it was difficult for physicians to consult with one another before the implementation of the telemedicine program; and to quickly and securely exchange graphic images (such as x-rays) for diagnosis. Patients, particularly those in rural communities, often had to travel significant distances to access health care. Working and visiting a medical specialist was difficult for the rural patients as well. The promise of "telemedicine" offered a way to shrink geographic distance, save time, money and offer superior health care to our patients. Telemedicine has been supported for the past few years by the grants from the Appalachian Regional Commission, and the results were outstanding (for more information, a copy of the grant results, proposed and actual, has been attached). Also in 2005, the FCC and the Appalachian Regional Commission announced a joint initiative to promote the user of Broadband services in Appalachia. In the last few years telemedicine from United Health Services has been awarded numerous federal, state, and community grants to bring outstanding patient care to the nearby rural areas. The Binghamton University Community Fund, CNYAHEC, Rotary Charities, the American Academy of Pediatrics, Time Warner Cable, NYNEX, and various private foundations were generous contributors as well.

United Health Services' efforts to develop a telemedicine program began in 1996, initially connecting school-based clinics with one pediatric office. While the project enjoyed some success, using the program efficiently was awkward and the challenges frustrated participants. Nevertheless, the promise of what telemedicine could achieve compelled the organization to put together a team to research ways to implement a more effective, user friendly program.

The UHS telemedicine team, consisting of physicians, administrators, IT specialists, and educators, worked together to develop and test a range of both equipment and software. Each step of development and testing brought some improvement, but difficulties with deployment and utilization remained significant challenges for the team. After an exhaustive trial of several databases and other telemedicine applications, the team found a reference to **Servoy®** Client Application in an online forum regarding databases. They researched the application's feature-set and decided to trial the Servoy client.

Identify the goals and objectives of the proposed network;

The goals and objectives of the proposed network:

1. Provide a fast and effective communication between providers at the central hospitals and outlying rural areas.
2. Increase the quality, convenience and accessibility of patient care.
3. Reduce unnecessary movement and transfers from rural hospitals to central hospitals.
4. Easy access between local providers and area specialists.

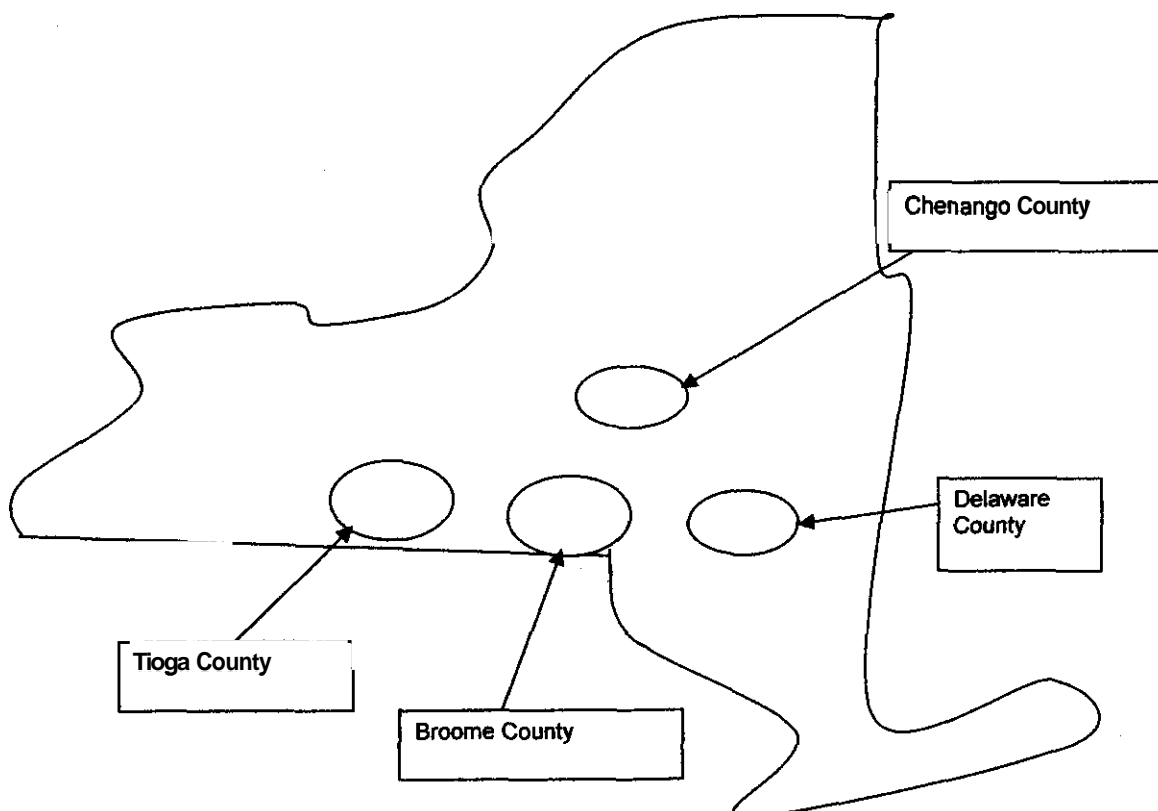
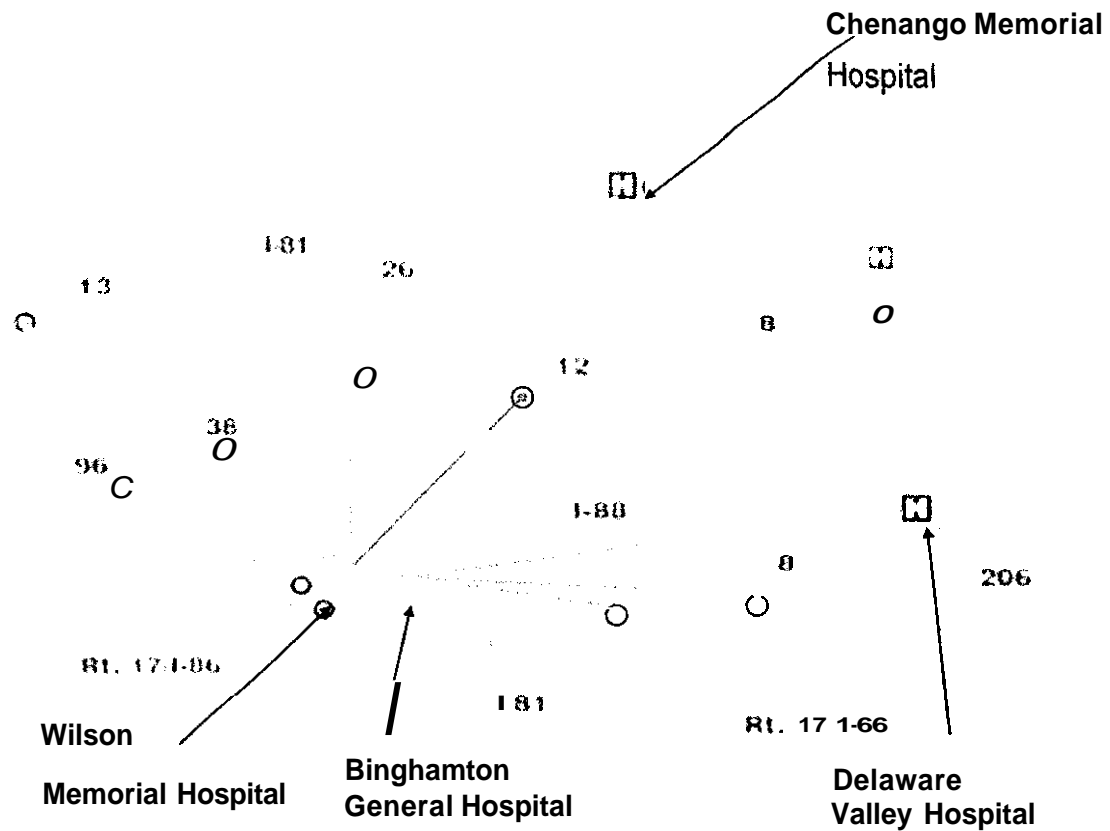


Diagram showing Broome County and nearby counties participating in the Telemedicine program in the NY region.

## The network total cost for each year



## Connectivity costs as of 5/1/2007

### Delaware Valley Hospital

Site	Monthly Cost	Notes
Delaware Valley Main Hospital	\$978.00	\$489.00 already grant funded
DVH Roscoe Family Care Center	\$129.00	
DVH Colchester Family Care Center	\$129.00	
DVH Finance Building	\$489.00	

# UHS Facilities

Site	Monthly Cost	Notes
Clinton St. Family Care Center	\$265.16	
WMH Internet Service (for Public Internet traffic)	\$350.00	
No. Tioga Family Care Center	\$331.46	
Ben Franklin School	\$139.95	
Roosevelt School	\$139.50	
Candor Family Care	\$354.95	
WMH Internet Service (for VPN's)	\$1800.00	
Windsor & Deposit Family Care Centers	\$2322.00	
WMH Internet Service (for corporate Internet traffic)	\$1500.00	
BGH Internet Service (for corp. Internet traffic & VPN's)	\$1037.50	
UHSH Laboratory Collection Depot , Sidney NY	\$139.95	

Site	Monthly Cost	Notes
Apalachin	\$178.95	J 274 90
Pharmacy	\$95.95	
Chenango Bridge	\$139.95	
Endicott	\$139.95	
	\$139.95	1119.60
	\$139.95	
Vestal Dermatology	\$139.95	
UMA Main Internet Connection (for Corporate Internet Traffic & VPN's)	\$1105.00	

**PHC / TTHH Facilities**

Site	Monthly Cost	Notes
TTHH / PHC Main Site (for Corporate Internet Traffic & VPN's)	\$299.00	
PHC Ithaca	\$139.45	
Dial-Up Services for Remote Users	\$739.90	These are dial-up <b>ISP</b> fees that are paid for Nurses to do a nightly synchronization with their laptops that are taken to user's home.

1178.35

Site	Monthly Cost	Notes
CMH Main Campus	\$1000.00	
Oxford Family Health Center	\$342.95	
Sherburne Family Health Center	\$242.95	

1585.90

15,369.36

**Describe how for-profit network participants will pay their fair share of the network costs;**

They are a few private practices like those of the Neurosurgeons, Orthopedic Surgeons, or Dermatologists, etc. All for-profit network participants, like the Neurosurgeons, still do not pay any share of the network costs, and neither are they paid for any consultations that they do. The new network might bring a change to real time patient care and more use of quality video applications. These consultations can then be approved for third party reimbursement without new legislation.

**Identify the source of financial support and anticipated revenues that will pay for costs not covered by the fund;**

The UHS budget for Telemedicine would be the source of financial support and anticipated revenues that will pay for costs not covered by the fund.

List the health care facilities that **will** be **included** in the **network**;

List of health ~~care~~ facilities that **will be included in the network**:

Hospitals:

Wilson Memorial Hospital (Central Hospital)  
Binghamton General Hospital (Central Hospital)  
Chenango Memorial Hospital  
Delaware Valley Hospital

Primary Care Offices:

Binghamton Family Practice  
Binghamton Internal Medicine  
Chenango Bridge Pediatrics  
Chenango Bridge Podiatry  
Chenango Bridge Walk-in  
Endicott Walk-in  
Endicott Family Practice  
Endwell Internal Medicine  
Greene Family Practice  
Johnson City Internal Medicine  
Kirkwood Family Practice

Specialty Offices:

Cardiology, Johnson City  
Dermatology/ Skin Care Center, Vestal  
ENT / Facial Plastic Surgery, Johnson City  
Gastroenterology, Binghamton  
Gynecology, Johnson City  
Nephrology, Binghamton  
Obstetrics, Johnson City  
Orthopedics, Binghamton  
Plastic/ Cosmetic Surgery, Binghamton  
Podiatry, Binghamton  
Sleep Disorders Center, Binghamton  
Surgery, Johnson City  
Urogynecology, Vestal  
Urology, Johnson City

United Health Services Family Care Centers:

Northern Tioga Family Care Center  
Johnson City Family Care Center  
Deposit Family Care Center  
Windsor Family Care Center

Candor Family Care Center  
Binghamton Family Care Center  
Binghamton Pediatric Center

**Chenango Memorial Hospital (CMH) Family Care Centers:**

Norwich Family Care Center  
Oxford Family Care Center  
Sherburne Family Care Center

**Delaware Valley Hospital Family Care Centers:**

Downsville Family Care Center  
Roscoe Family Care Center  
Walton Family Care Center

**Special Care and Services:**

Cancer Care Center, Johnson City  
    - Radiation Oncology  
    - Medical Oncology  
CMH C.V.Stratton Center Dental Center  
CMH C.V.Stratton Center Walk-in Center  
CMH C.V.Stratton Center Women's Health Center  
CyberKnife of New York – Johnson City  
Stay Healthy center – Johnson City  
Women's Health Center – Johnson City

**Home Care:**

Professional Home Care  
    - Vestal  
    - Ithaca  
    - Norwich

Twin Tier Home Health, Vestal  
Ideal Long Term Home Health Care Program, Endicott

**The URL link below provides a list of specialties in our hospitals:**  
**<http://www.uhs.neffmedical>**

**For RUCA codes for Broome County, New York**  
**<http://151.121.68.30/Data/RuralUrbanCommuntingAreaCodes/2000/>**

**Provide the address, zip code, Rural Urban Commuting Area (RUCA) code and phone number for each major health care facility participating in the network;**

Wilson Memorial Hospital  
33-57 Harrison Street  
Johnson City, **NY** 13850  
Phone: 607

Binghamton General Hospital  
10-52 Mitchell Ave  
Binghamton, **NY** 13903  
Phone: (607)655-1230

Binghamton Pediatric Center  
1042 Mitchell Avenue  
Binghamton, **NY** 13903  
Phone : (607)762-2468

Candor Family Care Center  
54 Main Street  
Candor, **NY** 13743  
Phone : (607)659-7272

Clinton Street Family Care Center  
142 Clinton Street  
Binghamton, **NY** 13905  
Phone : (607)762-2660

Deposit Family Care Center  
53 Pine Street  
Deposit, **NY** 13754  
Phone : (607)467-4195

Johnson City Family Care Center  
40 Arch Street  
Johnson City, **NY** 13790  
Phone : (607)763-6075

Northern Tioga Family Care Center  
119 Whig Street  
Newark Valley, **NY** 13811  
Phone : (607)642-5211

Windsor Family Care Center  
5 College Avenue  
Windsor, NY 13865  
Phone : (607)655-1230

Indicate previous experience in developing and managing telemedicine programs;

Familiar with database applications as medical knowledge workers only, the team leaders were able to create their prototype in Servoy – using Servoy's drag & drop interface to add code to methods. Amazed by the speed and ease of developing their prototype in Servoy, the UHS team contacted Servoy, Inc. Within a short period of time, Servoy Professional Services were able to turn the UHS prototype into an actual proof-of-concept. Of particular benefit to UHS, was Servoy's ability to display and handle graphic images and digital media such as: x-rays; photos; video clips; heart sounds; and voice recordings.

Normally, there is an 18-24 month development cycle for software applications. But in less time than it takes other companies to draw up application specifications, or outline a complex data model, the UHS team and Servoy Professional Services were able to cooperatively create a functioning telemedicine tool that exceeded the expectations and requirements of UHS.

The UHS Telemedicine application demonstrates the strength of employing Servoy's graphical user interface (GUI) as a front-end for databases. Combined with Servoy Smart Client zero deployment capability to a wide area network (WAN) – eliminating the necessity of individually installing any software on client computers – participating medical professionals are unaware that their medical consultation information is made available from data stored in a remote SQL backend database. The Servoy developed telemedicine system is fast; easy-to-use; efficient; graphically pleasing; and no special hardware is required. Because Servoy supports only industry standards, it is simple to apply existing snippets of code such as JavaBeans. Off-the-shelf (OTS) computers and the internet mean a low total cost of ownership (TCO). And Servoy's ability to access data from multiple backend databases at the same time, allows for future expansion of the telemedicine interface to seamlessly interact with multiple legacy health management systems.

As a result of using Servoy, the UHS Telemedicine Project is now totally cross-platform; internet accessible; handles all data types; and is compatible with institutional standards. In the eighteen months since their telemedicine application was deployed, UHS has provided more than 800 consults at more than 20 sites by nearly 70 practitioners and 75 medical students. Behind the scenes, a complex set of rules-based permissions handles client management; security; and logging procedures that exceed government regulations and HIPAA

(Health Insurance Portability and Accountability Act) standards – yet the Servoy UHS Telemedicine application appears to end users as an easy-to-use interface with pull down menu-options.

**Here are some** of the responses to using **the UHS** Telemedicine program:

A school-based Nurse Practitioner remarked, "This is so cool. Even I can do this. **It's** so easy and the consultant's response is quick. What a wonderful program. I'm very pleased."

An Emergency Medical Physician said, "This is a great tool to reach our Orthopedic Surgeons quickly. And the educational benefits are also going to expand for our med students."

And perhaps a Plastic Surgery Scheduler summed up the benefits of the program best by saying, "Telemedicine is very good for the patient and the consultant. By using the system today, we prevented a baby from **coming** in for an additional visit to schedule a surgical procedure. I was able to free up the schedule for another patient. The system is easy to **use**."

With Servoy's help, the UHS Telemedicine Project team has realized its vision of Droviding access to health care – regardless of time constraints and distance. Today, **they ARE** utilizing the **promise of** telemedicine for the improved care of patients.

**Provide a project management plan outlining the project's leadership and management structure, as well as its work plan, schedule, and budget;**

### **Project Management Plan**

The whole project would be in divided in following phases:

1. Planning the software and hardware needs.
2. Buying the software and the hardware needed to connect the major hospitals and facilities.
3. Connection with the back bone.
4. Applications (Telemedicine, Telestroke, Video Telemedicine) that can be accessed for the particular bandwidth available.
5. Running the application and getting feedback from the end users from the various facilities in the different counties.

If the funding is being distributed in July or August, the above phases will be scheduled for the following:

Phase 1: Planning August – September 2007

Phase 2: Buying – September 2007

Phase 3: Connection – October – November 2007

Phase 4: Application implementation – December – February 2007

Phase 5: End user feedback and uses – February 2007 – July 2007

After a year of the grant, a report showing the progress and the monies available will be assembled.

The project leaders in this project would be:

Anu Banerjee – Clinical Systems, United Health Services (607-763-6083)

Rebecca Kennis – Clinical Systems, United Health Services (607-763-5087)

Neil Hall – Information Services - United Health Services (607-763-6088)

Tom Franchina – Information Services - United Health Services (607-763-5229)

Assisting the project is:

Dr. Cheryl Kerr – Pediatrician - United Health Services, Cheryl-kerr@uhs.org

Dr. Lawrence Kerr – Plastic Surgeon – United Health Services –

Lawrence-kerr@uhs.org

John Skovronski – Binghamton University – Internet2 guide -

jskovrol@binghamton.edu

Internet2 is working with regional networks and university campuses as well as corporate and research partnerships to provide the U.S. research and education community with a dynamic, innovative and cost-effective hybrid optical and packet network. The Internet2 Network provides multiple services, across multiple domains, at multiple speeds, over one seamless infrastructure. Extremely scalable and flexible in bandwidth, the new network will enable advanced applications and collaboration among academia, research and industry across the nation and globally.

Internet2 will be able to support and contribute to new collaborations and partnerships between the regional networks and individual institutions. The universities, companies and other organizations that are at the heart of the Internet2 community will have an even more direct role in the organization that provides advanced networking for their faculty, staff, and students. Internet2 is committed to this inclusive membership principle today, just as strongly as it was at its founding. And Internet2 will remain committed to it into the future.

The Internet2 community includes 208 universities, 61 companies, 22 regional networks, 52 affiliate organizations, 38 K-20 networks, virtual organizations of

scientists scattered across the globe at many institutions, federal partners, and over 50 international partners. As one measure of network reach, there are over 9300 network routes in the current Abilene network, spanning 1385 Autonomous Systems (ASes)

Indicate how the telemedicine program will be coordinated throughout the **state** or region; and

The Need in Our Counties:

As described in our strategic plan supported by the American Academy of Pediatrics (2003 AAP CATCH report), the counties of Broome, Chenango, Delaware, and Tioga lie in upstate New York. The area is largely rural. The four counties comprise 3,566 square miles, with a per square mile population of 98.6 persons. The only metropolitan area is Binghamton, which lies within Broome County. Throughout the region there has been a decline in non-farm employment. Hardest hit by this decline has been Chenango County, which experienced an 11.4% decline (1990-1999) and Broome County with an 8.4% decline.

The current Telernedecine program can be launched through the following URL:

<http://www.unitedhealth.net/default.asp>

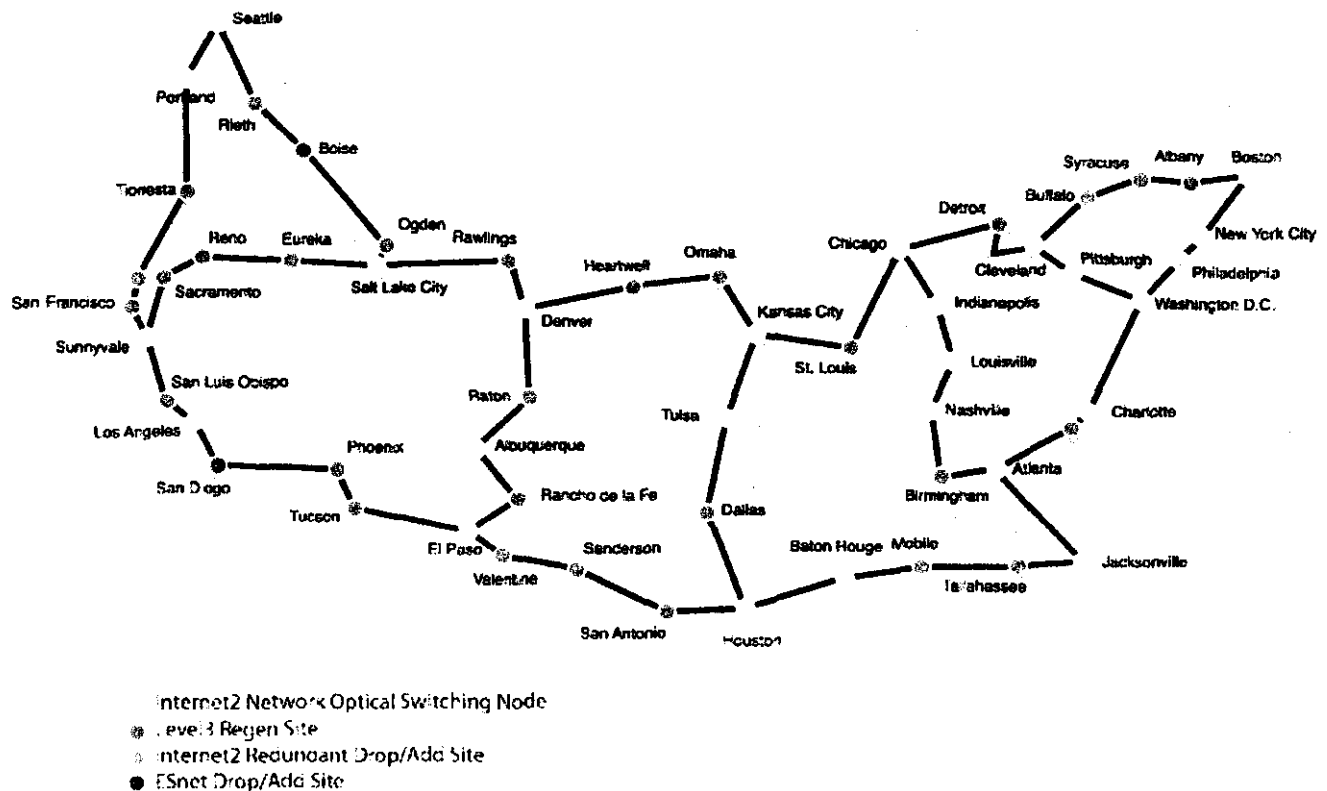
Then click on Telemedicine link. (For more information about logging in contact Anu Banerjee, Clinical Systems, UHS)

Successfully identifying a strategy to expand the Virtual Pediatric Center within the region brings the rich possibility that children will have "medical homes" that are indeed comprehensive, competent, and strengthened through a collaborative network. Such a network becomes a virtual medical home for all that need it.

Currently there are approximately 32 pediatricians, and 3 neonatologists in the region. Of the 32 pediatricians, 27 practice within Broome County, most notably in the metropolitan area of Binghamton. One local hospital has a small pediatric unit staffed with family practice residents, and three smaller community hospitals exist within the four counties. It is difficult for ~~the~~ more rural areas to retain physicians. Upstate Medical University is a valuable subspecialty resource, 70 miles north of Binghamton; there is a pediatric neurologist who practices 65 miles west of Binghamton.

Internet2's members include over 120 medical institutions and health related organizations such as the National Institutes of Health. These members have taken advantage of the capabilities of a high-performance network environment

to advance the state of health research education and clinical processes. For example, anatomy courses now often include digital resources that allow students to **virtually interact with life-like three dimensional simulations** instead of cadavers. With extremely high quality video, pathologists are able to analyze images from patients at significant distances. Researchers from many different institutions are able to work together on very large data files without leaving their labs or offices. Clinicians are able to collaborate and teach using Immersive Medical Telepresence.



Please contact Anu Banerjee, Clinical Systems, UHS for any further questions or concerns.

Contact by phone: (607)763-6383/(607)763-6499

Email: [anu\\_banerjee@uhs.org](mailto:anu_banerjee@uhs.org)

Pager: (607)774-1613

Enclosures:

1. Four copies of the original grant proposal.
2. Nine support Letters from different specialists, physicians and health care providers.
3. Visual presentation of previous ARC grants. Results graphs also included.